AIRBOSS™ EVOLUTION, AIRBOSS™ EVOLUTION PLUS AND PROAIR™ EVOLUTION
COMPRESSED AIR RESPIRATORY PROTECTION EQUIPMENT

Instructions for Use

Approvals

AirBoss™ Evolution, AirBoss™ Evolution Plus and ProAir™ Evolution are positive pressure, open circuit, self contained compressed air respiratory equipment certified by NIOSH/MSHA.

AirBoss™ Evolution, AirBoss™ Evolution Plus and ProAir™ Evolution must only be used in conjunction with compressed air cylinders approved by NIOSH/MSHA.

For Your Safety

AirBoss™ Evolution, AirBoss™ Evolution Plus and ProAir™ Evolution approved equipment incorporates Dräger pre-set, and sealed pressure reducer and balanced piston unit assemblies. Drägers' guarantee is void should original seal caps be tampered with, removed, or broken. Correct operational condition is only valid if Dräger service, and re-seals pressure reducer and balanced piston unit.

- Use of this equipment requires wearer training, knowledge, observance of these User's Instructions, and compliance with National Regulations, Laws and Standards, governing the use of respiratory equipment in the country of use.
- Use equipment only for the purpose specified in this manual, or as confirmed in writing by Dräger.
- Guidelines for proper use of equipment should be consistent with NFPA 1500 - standard on Fire Department Occupational Safety and Health Program.
- Trained personnel should inspect and service equipment at regular intervals and a record kept of such inspections and servicing.
- Dräger recommends a service contract be obtained from your Dräger Branch or Agent.
- Contact Dräger for details of Service Contracts and Service Training Courses.
- Use only original Dräger Spare Parts for service and maintenance.
- Notify Dräger in the event of component fault or failure.
- Use only Dräger Test Equipment for service and maintenance.

Warranty and Liability Statement

Terms and Conditions of warranty, for the **AirBoss™ Evolution, AirBoss™ Evolution Plus and ProAir™ Evolution,** can be obtained from Dräger on request.

Responsibility for reliable function of equipment transfers to the owner or operator when serviced, or repaired by untrained personnel, (not employed or authorised by Dräger) or when used in a manner not conforming to its intended use.

Description

Researched and designed to meet the specific needs of the end user, the **AirBoss™ Evolution, AirBoss™ Evolution Plus and ProAir™ Evolution** variants utilise the same high performance first stage pressure reducer, lung demand valve, carbon composite backplate and are fully compatible with a wide range of compressed air cylinders and facepieces.

The above variants can be fitted with either a Mechanical Gauge, Flashing Gauge or Sentinel.

Details of equipment variants and approved accessories are available from Dräger on request.

Intended Use

AirBoss™ Evolution, AirBoss™ Evolution Plus and ProAir™ Evolution positive pressure two stage compressed air respiratory protection equipment, used in approved cylinder, facepiece and demand valve combinations, provide the wearer with respiratory protection when working in a contaminated, or oxygen deficient gaseous atmosphere.

Effective working duration of equipment is dependant on capacity (volume) of cylinder selected and breathing rate of wearer.

Technical Data

High Pressure Connection

- **2216 psi** connection to **CGA 346**
- **4500 psi** connection to **CGA 347**

Lung Demand Valve to Facepiece Connection

- **Push-In** - Positive Pressure with By-pass

Pressure and Flow - Equipment

Medium Pressure: 87 psi to 130 psig

Air Flow: in excess of **1000 litres/minute.**
at **290 psig** in excess of **500 litres/minute.**

Pressure and Flow - Airline Supply

If equipment fitted to independent air supply, the following parameters should be noted:

Air Supply Pressure: 90psig to 120psig
Airline Hose Length: 5 feet to 300 feet

Note: maximum working length of hose Must Not be made up of more than 12 individual hose lengths.

Safety Note: Air quality Must conform to the minimum grade requirements for Type 1 Gaseous air as defined in Compressed Gas Association Commodity Specification for Air, G-71 (Grade D or higher quality). Use of airline connection by a second person, Buddy Breather, voids NIOSH approval.

Whistle Setting (Flashing Gauge)

Whistle setting for the following pressure units is as follows:

- **2216 psi Unit** - setting **510 psig** to **600 psig**
- **4500 psi Unit** - setting **1035 psig** to **1215 psig**

The activation setting of the LED's of the Flashing Gauge (if fitted) is also within the above setting parameters.

Weights

AirBoss™ Evolution, AirBoss™ Evolution Plus and ProAir™ Evolution Self Contained Breathing Equipment (without cylinder) - **8.5lbs.**

Charged Compressed Air Cylinders

4500psi/60 minutes (Carbon composite)	19.0lbs
4500psi/60 minutes (Kevlar composite)	22.0lbs
4500psi/60 minutes (Fibreglass composite)	26.5lbs
4500psi/45 minutes (Carbon composite)	14.8lbs
4500psi/45 minutes (Kevlar composite)	17.0lbs
4500psi/45 minutes (Fibreglass composite)	20.6lbs
4500psi/30 minutes (Carbon composite)	11.4lbs
4500psi/30 minutes (Kevlar composite)	12.4lbs
4500psi/30 minutes (Fibreglass composite)	13.2lbs
2216psi/30 minutes (Carbon composite)	12.0lbs
2216psi/30 minutes (Fibreglass composite)	13.9lbs
2216psi/30 minutes (Hoop Wrap, Fibreglass)	16.3lbs
2216psi/30 minutes (Full Aluminium)	21.4lbs

Equipment Dimensions

Data indicated is less cylinder and with carrying harness folded in stowage condition.

Length:	approx. 24.5 inches
Width:	approx. 12.5 inches
Height:	approx. 6 inches

Preparation for use

Flashing Gauge - Fitting Batteries

If Flashing Gauge fitted – fit new batteries as follows:

- Fold back rubber cover from the gauge to access the battery cover.
- Refer to Fig. 1. Using TORX™ - TX 8 unscrew the four captive screws and carefully remove the battery cover taking care not to damage the sealing gasket.
- Insert two new batteries into the battery compartment ensuring correct positioning of terminals.
- Check that sealing gasket is not damaged. Relocate battery cover and secure using the four captive screws. **Do Not** overtighten (max. 0.4Nm).
- Reposition rubber cover over the gauge.

Fitting Cylinder

- Check valve port and the reducer handwheel threads are undamaged, connector O ring is in position, and undamaged.
- Place the backplate horizontal, extend the cylinder strap, slide cylinder through strap locating the valve port to the reducer handwheel.
- Lift unit upright, screw the handwheel into the valve port, (handtight). **Do Not** use tools.
- Place backplate horizontal, take up slack on cylinder strap (Fig. 2) pull strap over cylinder to activate Camlock (Fig. 3) secure strap to Velcro.

Pre Operational Checks

High Pressure Leak Test

- Press reset (1 Fig. 9) mechanism of the lung demand valve to switch 'Off' positive pressure.
- Open the cylinder valve slowly, but fully, to pressurise system.

Note: If an immediate leak is indicated from the demand valve - press the centre of the rubber cover to release the positive pressure mechanism - press reset mechanism to switch 'Off' positive pressure. Repeat the action two or three times to eliminate the leak. If leak not eliminated return balanced piston unit to Dräger Service.

- Close the cylinder valve and observe the pressure gauge.
- Gauge reading shall not decrease more than **200psig** in **1 minute.**

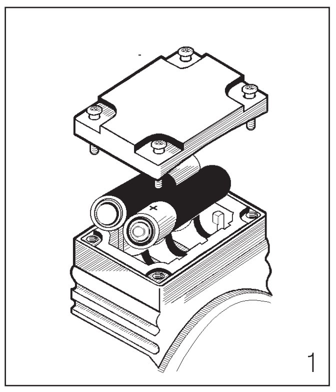
Whistle Warning Unit Test

- Cover the outlet of the demand with ball of the hand, press the centre of the rubber cover, turning 'On' positive pressure. Slowly vent system by carefully lifting the ball of the hand maintaining a slow decrease in pressure.
- Observe the gauge. Whistle should sound at the preset pressure.

Note: Whistle pre-set by Dräger to the following values:

- **2216 psi Unit - 510psig to 600psig**
- **4500 psi Unit - 1035psig to 1215psig**

- Should whistle not sound at the required pressure, refer to Service Manual.



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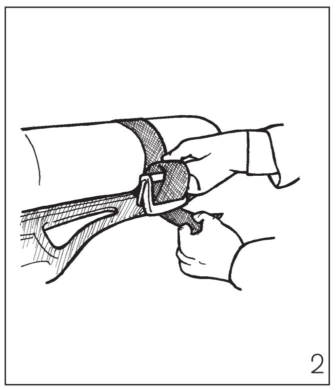

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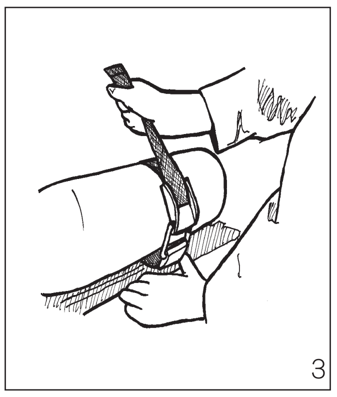

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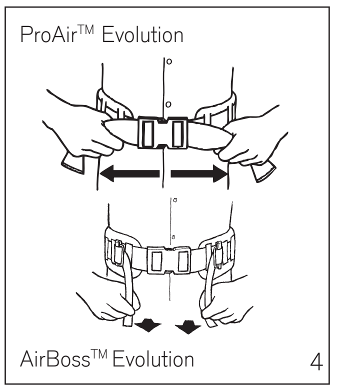

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Important Note: The activation setting of the LED's of the Flashing Gauge (if fitted) is also within the above setting parameters. Audible and visual signals/warnings may however not activate at exactly the same time. The LED's of the Flashing Gauge will switch off before the audible warning at the following approximate values,

- **2216 psi Unit – below 200psig**
- **4500 psi Unit - below 400psig**

- Following satisfactory whistle test, press reset mechanism to switch 'Off' positive pressure.

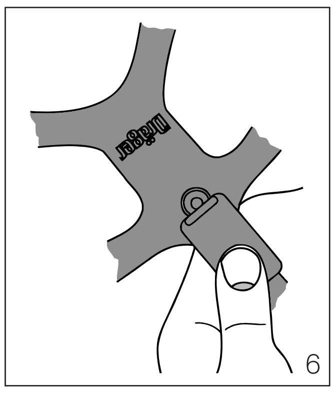
Connecting Demand Valve to Facepiece

- Check that the facepiece port and the demand valve O ring are clean and undamaged.
- Push the demand valve into the facepiece port until it clicks into position. A slight turning motion of the LDV during pushing will aid connection.
- Check that the attachment is secure. Pull the demand valve away from facepiece - there should be no axial movement.

Operation

Putting on equipment

- Extend the waistbelt and shoulder adjusting straps.
  Put on equipment taking weight on shoulders by pulling on shoulder adjusting straps. **Do Not** tighten.
- Fasten waistbelt buckle. Pull ends of waistbelt adjusting straps (see Fig. 4) until waistbelt pad is secure and comfortable on hip. Tuck strap ends between body and waistbelt pad.



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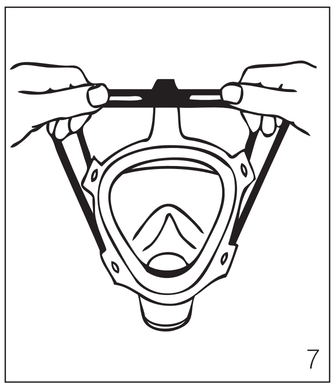

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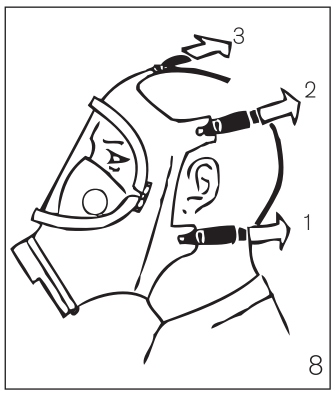

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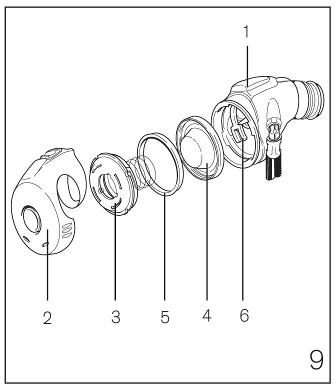

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- Pull down shoulder adjusting straps (Fig. 5) until equipment is secure and comfortable. **Do Not** overtighten. Tuck strap ends under waistbelt.
- Extend facepiece head harness straps, leaving centre strap in position, (Fig. 7). Put neck strap over neck, insert neck strap stud into hole in centre strap of head harness.
- Carry out High Pressure Leak Test.

Note: Cylinder pressure must not be less than 80% full. If pressure is below maximum charging pressure of the cylinder, this will reduce available duration to the wearer.

- Press the reset mechanism of the demand valve to switch 'Off' the positive pressure.
- Open the cylinder valve slowly, but fully, to pressurise the system. Check the gauge.

Putting on Facepiece

Safety Warning: Beards, side whiskers, facial stubble and/or spectacle frames will interfere with face seal of facepiece, and adversely affect protection of the wearer.

- Detach the neck strap stud from the centre strap of the head harness.
- Spread the harness, (Fig. 7) then place chin into the facepiece, position harness over the head locating the harness centre plate with the back of the head.
- Tighten both the lower, then the upper straps evenly towards back of the head. Fig. 8. Tuck in strap ends.
- On achieving a face seal the positive pressure demand valves will automatically activate on first breath inhalation.
- Breathe normally then prior to use perform function checks.

Function Checks

- Inhale and hold breath. Unit must balance, i.e. no audible leak.
- Continue breathing. Expired air should easily flow out of the exhalation valve.
- Press the 'red' by-pass button of the demand valve checking that an additional airflow is delivered into the facepiece.
- Close the cylinder valve. Breathe normally to vent the system. When the gauge indicates zero, hold breath. Facepiece should hold onto the face indicating a positive seal.

Note: If a leak detected, open the cylinder valve, readjust the head harness and retest.

- Open the cylinder valve slowly, but fully to pressurise the system, recheck the pressure gauge and proceed.

Use

- Take gauge reading regularly. Whistle will sound at whistle warning unit pressure setting.
- Proceed to safe area, at least when whistle sounds, by shortest and safest route.

Important Note: The activation setting of the LED's of the Flashing Gauge (if fitted) is also within the whistle setting parameters. Audible and visual signals/warnings may however not activate at exactly the same time. The LED's of the Flashing Gauge will switch off before the audible warning.

Safety Notes:

a. Additional Air Required
If momentary additional airflow is required, press 'red' bypass button of lung demand valve. In the unlikely condition of low or blocked airflow, or if required to maintain additional airflow, press and rotate the 'red' bypass button to 'lock' the flow setting (80 - 130Litres/min). Duration of the air supply is reduced while the bypass is in operation. When set in this condition the wearer must evacuate to a safe area. If it is suspected that the apparatus is blocked then an investigation by a trained authorised person must be carried out before re-using the apparatus.

b. Excessive or Loss of Airflow
In the unlikely condition of high or loss of airflow, close the cylinder valve then immediately begin to slowly re-open the valve, using it as an adjusting valve to set sufficient airflow to cover the maximum inhalation requirement. This action must only be carried out in an emergency situation to escape to a safe area. An investigation by a trained authorised person must be carried out before re-using the apparatus.

Note: On SCBA having cylinders fitted with a locking (ratchet) valve, adjustment of the cylinder valve while wearing the SCBA must be performed as follows. Reach behind with the left hand to support the backplate and at the same time with the right hand, push and hold in the valve handwheel, rotating the handwheel clockwise to close the valve then immediately begin to slowly re-open the valve, using it as an adjustment valve to set sufficient airflow to cover the maximum inhalation requirement. Release the valve handwheel when the required airflow is achieved.

Connecting to Independent Air Supply

Note: Ensure independent air supply source meets pressure and air quality requirements as defined in Technical Data section of this User's Instruction.

- Turn 'On' the independent air supply then connect air supply hose to the coupling of the Buddy Breather connection.
- Close equipment cylinder valve and breathe normally from the independent air supply.

IN AN EMERGENCY - If independent air supply 'Fails', proceed as follows:

- Open cylinder valve slowly but fully. Breathe normally.
- Disconnect air supply hose from Buddy Breather connection.
- If necessary leave hazardous area by shortest and safest escape route.

After Use

Safety Warning: Do Not remove equipment until in safe area, clear of hazard.

- Release the side straps of the head harness, press the reset mechanism of the demand valve to switch 'Off' the positive pressure then remove the facepiece.
- Close the cylinder valve.
- Unbuckle the waistbelt, lift shoulder strap buckles to loosen, remove the equipment.

Note: Do Not drop or throw down equipment as damage could occur.

- Press centre of the rubber cover of the demand valve to vent system. Following venting press the reset mechanism of the demand valve to switch 'Off' positive pressure.

Note: If the by-pass has been set in constant flow position, turn the 'red' button to unlock, and switch 'Off' the by-pass.

- Pass equipment to the Service Department.

Routine Maintenance

To be performed after Use.
See also Maintenance and Test Intervals Chart.

Removal of cylinder

Safety Warning: Cylinder valve should be closed and system vented.

- Lift free end of the cylinder strap against the Camlock to release, loosen the strap. Unscrew handwheel from cylinder valve. Slide cylinder away from reducer, remove from equipment.
- Recharge the cylinder.

Charging Cylinders

Safety Warning: Air quality for compressed air cylinders must conform to the minimum grade requirements for Type 1 gaseous air as defined in the Compressed Gas Association Commodity Specification for Air, G-7.1 (Grade D or higher quality).

To prevent ingress of moisture into the cylinder, ensure that the cylinder valve remains 'closed' until connected to the charging unit.
Dräger recommends that the moisture content in charged cylinder should not exceed the following:

- **2216 psig Units**
  50 mg/cubic meter (4.99 x 10-5 ounce/ cubic feet.
- **4500 psig Units**
  35 mg/cubic meter (3.49 x 10-5 ounce/ cubic feet.

Safety Warning: If moisture content exceeds recommended levels, ice particles can form reducing, or blocking air flow. Water content of breathing air must be checked.

Recharge to the indicated pressure stamped on the neck, or shoulder of the cylinder.

Visual Inspection

Check integrity of:

- Carrying plate.
- All straps, buckles and harness.
- Valves, connectors and cylinder supports.
- Facepiece.

Flashing Gauge – if fitted

Replace batteries annually regardless, or when the brilliance of the LED's is significantly reduced.

Note: Use only approved batteries. Refer to the specifications detailed on the label of the gauge battery cover.

Cleaning, Disinfecting, Drying

Carefully clean, disinfect, and thoroughly dry contaminated dirty components as necessary.

Use suitable baths for containing cleaning and disinfecting solutions. Immerse and manually agitate components in solutions. Dräger recommends that no form of mechanical, electrical or ultrasonic agitation be used.

Safety Note: Refer to manufacturers' usage instructions when using cleaning and disinfecting agents. It is important that attention be paid to concentration and reaction times. Do Not use organic solvents, such as Acetone, Alcohol, White Spirit, Trichloroethylene or similar.

Dräger recommends the following:

Cleaning

- Dräger Safety Wash.
  Do Not exceed a temperature of **86 degrees** Fahrenheit.

Disinfecting

- Incidur.
  Do Not exceed a temperature of **86 degrees** Fahrenheit.

Details of cleaning and disinfecting agents are available from Dräger on request.

Rinsing and Drying

Remove cleaning and disinfecting solutions by rinsing in clean water, followed by drying.
Do Not exceed a temperature of **140 degrees** Fahrenheit when drying components.

Lung Demand Valves

It is important to follow these instructions to internally clean and disinfect the lung demand valve.

Refer to Fig. 9.

- Fold the rubber cover (2) from the front of the demand valve body. Grip the bayonet cap (3), turn anticlockwise and remove the bayonet cap.

Note: The positive pressure spring remains attached to the bayonet cap. Do Not remove, stretch or compress the spring. Take care not to damage the spring during cleaning and disinfecting procedures.

- Using the thumb and forefinger carefully grip centre plate of the diaphragm (4) then tilt the centre plate and lift the diaphragm from the body of the demand valve. Remove the slip ring (5).

Note: The diaphragm must not be ultrasonically cleaned as this will affect the bonded area of the diaphragm. Clean and disinfect manually.

- Fold rubber cover back over the front of the demand valve body to protect the lever (6) of the balanced piston.
- Immerse, and manually agitate the demand valve, diaphragm, slip ring, and bayonet cap in cleaning fluid. (Refer to cleaning fluid instructions.)
- After cleaning, rinse components in clean water.
- Immerse and manually agitate components in disinfecting fluid. (Refer to disinfecting fluid instructions.)
- After disinfection fold the rubber cover from the front of the demand valve and rinse components in clean water. Take care not to damage the lever (6) of the balanced piston.
- Connect the hose of the demand valve to a medium pressure air supply. Press reset (1) then turn 'ON' the air supply.
- Gently press lever (6) blowing out fluid residue.

Safety Note: Wear suitable eye protection.

- Disconnect from air supply, dry the components and, if necessary remove the excess fluid.
- After drying, carefully locate the outer bead of diaphragm into groove in the demand valve body.

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Dräger

Instructions for Use

- Carefully locate tapered side of the slip ring into the recess in the bead of the diaphragm.
- Locate the spring of the bayonet cap into the centre of the diaphragm and refit bayonet cap.
- Fold the rubber cover back over the front of the demand valve.
- Press reset (1) to switch 'Off' positive pressure.
- Connect the demand valve to the equipment and perform Pre Operational Checks as detailed in the Instructions for Use for the equipment.

Pressure Reducer and Hose Assemblies

Note: Refer to For Your Safety.

- For cleaning and disinfecting, remove pressure reducer and hose assembly from the backplate.
- Remove the locknut, bolt and washers from the reducer mounting.
- Unfasten the hose loops, releasing the hoses, and remove the reducer and hose assembly.

Note: Do Not immerse the pressure reducer in cleaning or disinfecting solutions.

- Using clean cloth, moistened in cleaning, or disinfecting solution, remove dirt and contaminants from the pneumatic assembly.
- Using clean cloth moistened in clean water remove disinfecting residue followed by drying.

Note: Do Not exceed a temperature of 140 degrees Fahrenheit when drying components.

- Re-assemble reducer and hose assembly to backplate and harness.

Replacing Diaphragm

See Maintenance and Test Intervals Chart.

Refer to Fig. 9.

- Fold the rubber cover (2) from the front of the demand valve body. Grip the bayonet cap (3), turn anticlockwise and remove the bayonet cap.

Note: The positive pressure spring remains attached to the bayonet cap. Do Not remove, stretch or compress the spring. Take care not to damage the spring during cleaning and disinfecting procedures.

- Using thumb and forefinger carefully grip centre plate of diaphragm (4) then tilt the centre plate and lift diaphragm from the body of the demand valve. Remove slip ring (5). Discard diaphragm.
- Carefully locate the outer bead of the new diaphragm into groove in the demand valve body.
- Carefully locate tapered side of the slip ring into the recess in the bead of the diaphragm.
- Locate the spring of the bayonet cap into the centre of the diaphragm and refit bayonet cap.
- Fold the rubber cover back over the front of the demand valve.
- Press reset (1) to switch 'Off' positive pressure.
- Connect the demand valve to the equipment and perform Pre Operational Checks as detailed in the Instructions for Use for the equipment.

Storage - Ready for Use

- Fully extend shoulder straps, waistbelt and head harness of facepiece.
- Store equipment 'ready for use' in a cool dry environment, free from dust and dirt. Protect rubber parts from direct sunlight.

Safety Note: Ensure equipment secured and supported by cylinder, and not backplate, when stored 'ready for use', on wall or bulkhead mounting, e.g. Fire Tender.

Note: Refer to approved user instruction manual for complete list of sub-assembly component parts that make up approved assembly.

Cautions and Limitations

- Airline respirators can be used only when the respirators are supplied with respirable breathing air meeting the requirements of CGA G-71. Grade D or higher quality.
- Use only the pressure ranges and hose lengths specified in the user instructions.
- Contains electrical parts that have not been evaluated as an ignition source in flammable or explosive atmospheres by MSHA/NIOSH.
- Failure to maintain this product could result in injury or death.
- All approved respirators shall be selected, fitted, used and maintained in accordance with MSHA, OSHA and other applicable regulations.
- Never substitute, modify, add or omit parts. Use only exact replacement parts in configuration as specified by manufacturer.
- Refer to users instructions and/or maintenance manuals for information on the use and maintenance of these respirators.
- Special or critical users instructions and/or specific use limitations apply. Refer to instruction manual before donning.

S - Special or Critical Users Instructions

- Approved for use at temperatures above minus 25 degrees Fahrenheit (minus 31.7 degrees Centigrade).
- When used as a Combination Self Contained breathing Apparatus, not more than 20 per cent of the air supply can be used during entry.
- During supplied air use, the cylinder valve must remain closed. If the supplied air fails, open the cylinder valve and immediately proceed to fresh air.

Safety Warning: When equipment is fitted with Integrated Pass Unit - Do Not assemble equipment with 60 Minute (4500psig) Fibreglass composite cylinder, as NIOSH approved weight limit will be exceeded.

FAULT, CAUSE, REMEDY

FAULT	CAUSE	REMEDY
Facepiece leakage (Leak test with equipment in position)	1. Faulty or missing sealing ring or O ring at demand valve connection 2. Exhalation valve leaking 3. Speech diaphragm defective 4. Headstraps not tight	Fit or replace sealing ring or O ring Clean and re-assemble or replace Replace Tighten
Unsatisfactory communication	Speech diaphragm defective	Replace
High pressure leak	1. Check tightness of connections 2. Check hose seals on hose connections	Tighten as required Replace seals as required
Safety relief valve venting	Pressure reducer defective	Return pressure reducer to Dräger Service
Demand valve venting (constant flow)	1. Banjo O rings worn 2. Balanced piston leaking 3. Diaphragm incorrectly fitted 4. By-pass knob engaged	Replace Return balanced piston unit to Dräger Service Re-assemble correctly Turn 'Off' By-pass
Whistle not sounding correctly	Whistle dirty	Clean and re-test
Whistle sounding continuously	1. Damaged sealing on H.P. capillary 2. Defective activation mechanism	Replace sealing and re-test Return pressure reducer to Dräger Service

TESTING EQUIPMENT

Equipment should be tested as stated in the relevant User's Instructions, with test equipment listed below, and/or by reference to appropriate Service/Training Manual.

TEST EQUIPMENT

Refer to Dräger Service Manual
Contact Dräger for details of Service Contracts and Service Training Courses.

MAINTENANCE AND TEST INTERVALS

Carry out Inspection, Testing and Servicing of Equipment in accordance with this table. Record all data in Equipment Log Book. These instructions also apply to non-used (in Storage) Equipment.

	Description	After Use	Every Month	Every Year
Complete Equipment	Visual Inspection	■❍		
	Functional and Leak Testing as defined in Instructions for Use	❍		
	Flow and Static Tests per Manufacturer's instructions			❍
Pressure Reducer	Medium Pressure Check			❍
	Sintered Filter			❍
	Replace H.P. Connector O-ring			❍
Cylinder	Charge to correct pressure	❍		
	Charged Pressure Check. Check Test Date Stamped on Cylinder		❍	
	Cylinder Pressure Test (According to National Standards). Re-Certification			
Cylinder Valve	Basic Overhaul as necessary or at time of Cylinder Re-Certification.			

❍ Dräger Recommendation
■ Grease Demand Valve connector O-ring (Molykote 111) as required.

DRAEGER PROAIR EVOLUTION AND AIRBOSS EVOLUTION (NFPA1981:1997) SERIES

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NIOSH

Draeger AirBoss Evolution Series and ProAir Evolution Series Open-Circuit, Pressure-Demand, Entry & Escape Self-Contained Breathing Apparatus or Combination Open-Circuit, Pressure-Demand, Entry & Escape Self-Contained Breathing Apparatus & Type "C" Supplied-Air Respirator.

These respirators are approved only in the following configurations

Respirator Components

TC -	Protection[1]	Cautions & Limitations[2]
13F-377	SA / SC / PD 30 MIN 2216 PSIG	D E I J M N O S
13F-378	SA / SC / PD 30 MIN 4500 PSIG	D E I J M N O S
13F-379	SA / SC / PD 45 MIN 4500 PSIG	D E I J M N O S
13F-380	SA / SC / PD 60 MIN 4500 PSIG	D E I J M N O S

TC -	Alternate Facepieces																
	R50092	R51350	R52972	R53070	4052609	4052719	4052955	R54450	R54694	R54696	R54697	R54699	4056621	4053038	4053039	4053040	R55080
13F-377	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13F-378	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13F-379	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13F-380	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TC -	Alt. LDV			Alt. Hrnss Assy.				
	3339401	3338712	3352571	3337850	3337851	3337791	3351264	3351499
13F-377	X	X	X	X	X	X	X	X
13F-378	X	X	X	X	X	X	X	X
13F-379	X	X	X	X	X	X	X	X
13F-380	X	X	X	X	X	X	X	X

TC -	Alternate Pneumatic Assys.																			
	3350607	3350608	3350609	3350610	3352609	3352610	3352611	3352612	3337827	3337829	3337846	3337848	3337792	3337794	3350467	3350468	3351564	3351565	3351350	3351349
13F-377	X		X		X		X		X		X		X		X		X		X	
13F-378		X		X		X		X		X		X		X		X		X		X
13F-379		X		X		X		X		X		X		X		X		X		X
13F-380		X		X		X		X		X		X		X		X		X		X

TC -	Alternate Cylinder and Valve Assemblies														
	4050189	4054747	4050180	4054748	4052015	3337060	4053267	4052004	4052238	4054841	3338040	3338041	3338042	3338043	4055964
13F-377								X	X	X				X	
13F-378	X	X											X		
13F-379			X	X								X			X
13F-380					X	X	X				X				

TC -	Alternate Airline Connectors				
	3337890	3337650	3350946	3350947	3350948
13F-377	X	X	X	X	X
13F-378	X	X	X	X	X
13F-379	X	X	X	X	X
13F-380	X	X	X	X	X

TC -	Alternate Airline Hose Assemblies (feet)									
	AIRLINE HOSE 5-24FT	AIRLINE HOSE 5-24FT	AIRLINE HOSE 25FT	AIRLINE HOSE 25FT	AIRLINE HOSE 50FT	AIRLINE HOSE 50FT	AIRLINE HOSE 75FT	AIRLINE HOSE 75FT	AIRLINE HOSE 100FT	AIRLINE HOSE 100FT
	4059357	4059357L	4059061	4059061L	4059062	4059062L	4054854	4054854L	4059063	4059063L
13F-377	X	X	X	X	X	X	X	X	X	X
13F-378	X	X	X	X	X	X	X	X	X	X
13F-379	X	X	X	X	X	X	X	X	X	X
13F-380	X	X	X	X	X	X	X	X	X	X

TC -	Accessories																						
	GAUGE LIGHT	LDV HOLDER	WELDING SHIELD	WELDING SHIELD	HAIRNET, PANORAMA NOVA NFPA	HAIRNET, PANORAMA NOVA NFPA	HAIRNET, PANORAMA NOVA	HAIRNET, FUTURA NFPA	HAIRNET, FUTURA	VOICE AMPLIFIER	VOICE AMPLIFIER	RADIO INTERFACE	RADIO INTERFACE	RADIO INTERFACE	RADIO INTERFACE	RADIO INTERFACE	RADIO INTERFACE	SPECTACLE KIT PANORAMA NOVA	SPECTACLE KIT FUTURA	RAPID FILL FACILITY	RAPID FILL FACILITY	QUICK CONNECT	QUICK CONNECT
	3336106	3339633	4053437	4054916	4054930	4057102	4054931	4054963	4054964	4055001	4056197	4056200	4055002	4055025	4055026	4055027	4055028	R51548	R53325	3337700	3337701	3337852	3337853
13F-377	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	
13F-378	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X
13F-379	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X
13F-380	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X

TC -	Accessories																					
	WAIST BELT	WAIST BELT	HOSE LOOP	WAIST BELT LOOP	CHEST STRAP	CHEST STRAP	ADJUSTING BELT ASSY (METAL)	ADJUSTING BELT ASSY (METAL)	SENTINEL ASSEMBLY	SENTINEL ASSEMBLY	SUPER I-PASS II SHOULDER	SUPER I-PASS II WAIST	METAL CYLINDER STRAP	CYLINDER STRAP WITH ID NUMBER	AIRLINE CONNECTOR HOSE POUCH	HOSE LOOP WITH HOOK	RUBBER HANDWHEEL COVER	ALTERNATE WHISTLE ASSEMBLY	SHOULDER SHEATH (PSS100)	SHOULDER SHEATH (PSS100)	US TELEMETRY PORTABLE UNIT ASSY	PANORAMA NOVA MASK FRONT PORT SECURING CAP
	3337777	3351021	3339626	3337548	3337012	3339280	3337549	3351027	3338801	3350822	4056029	4056030	4055963	4056623	4056348	4056624	4056566	3350339	4056750	4056751	3354328	3335845
13F-377	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13F-378	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13F-379	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13F-380	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

1. PROTECTION

SA - Supplied-Air
SC - Self-Contained
PD - Pressure-Demand

2 - CAUTIONS AND LIMITATIONS

D - Air-line respirators can be used only when the respirators are supplied with respirable air meeting the requirements of CGA G-7.1, Grade D or higher quality.
E - Use only the pressure ranges and hose lengths specified in the User's Instructions.
I - Contains electrical parts that may cause an ignition in flammable or explosive atmospheres.
J - Failure to properly use and maintain this product could result in injury or death.
M - All approved respirators shall be selected, fitted, used, and maintained in accordance with MSHA, OSHA, and other applicable regulations.
N - Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
O - Refer to User's Instructions and/or maintenance manuals for information on use and maintenance of these respirators.
S - Special or critical User's Instructions and/or specific use limitations apply. Refer to User's Instructions before donning.

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